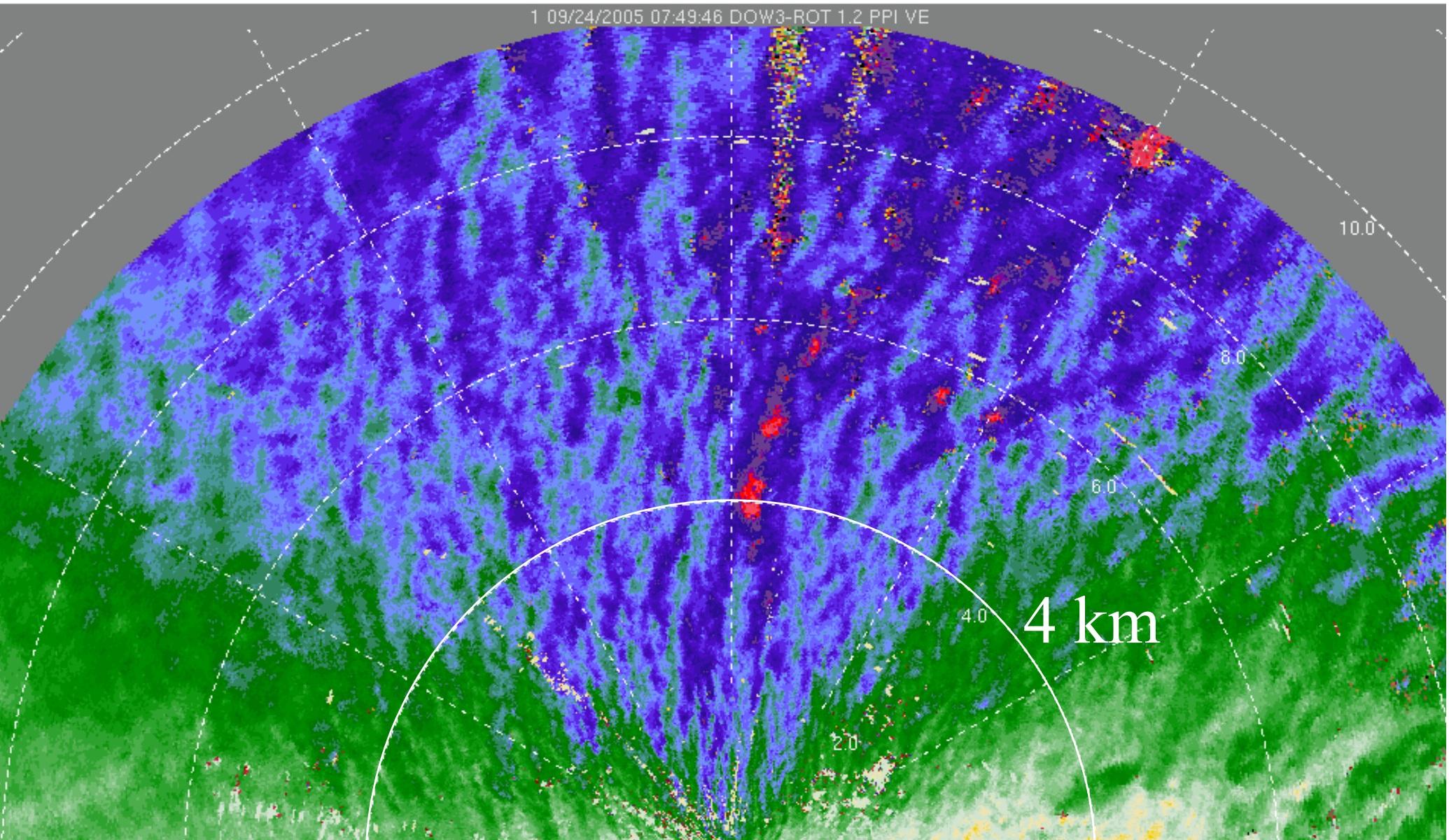
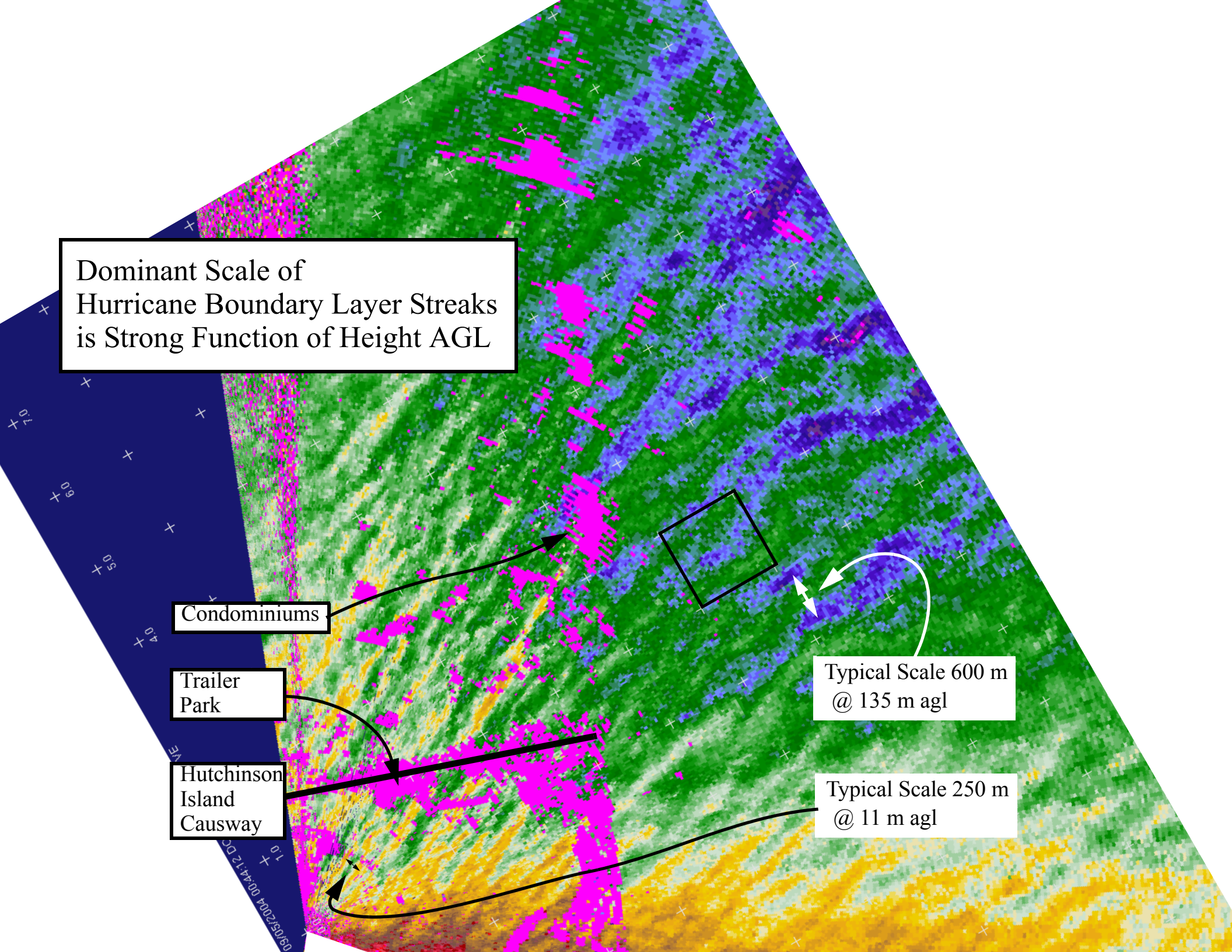
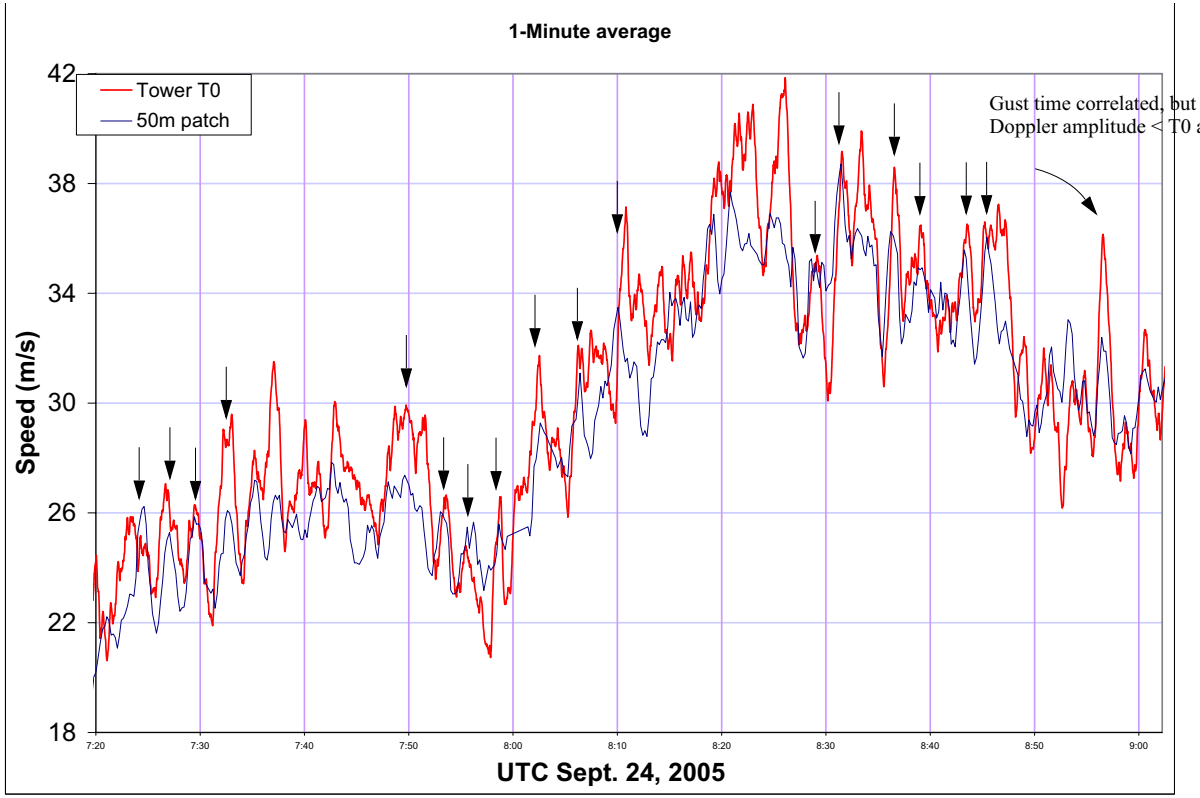
Towards Mapping Overland Winds in Hurricanes

DOW and Tower Data Syntheses

12-100 m scale DOW data @ 12 s intervals
10 m Tower data at 1 s intervals


1 09/24/2005 07:49:46 DOW3-ROT 1.2 PPI VE
10.0
8.0
6.0
4.0
2.0
4 km


Dominant Scale of
Hurricane Boundary Layer Streaks
is Strong Function of Height AGL
Condominiums
Trailer
Park
Hutchinson
Island
Causway
Typical Scale 600 m
@ 135 m agl
Typical Scale 250 m
@ 11 m agl



Comparison of Doppler and FMCP T0 winds over shorter time period to illustrate qualitative alignment of 1-min period gusts.
Amplitude of 1-min variability is higher at T0, probably due to inadequate spatial averaging method for Doppler patch. (soon to be corrected)
Same 0.7 normalization and cosign corrections applied.

Individual DOW-measured gusts over T0 are well correlated with T0 anemometer

DOWs + Towers

= neighborhood-scale wind maps

Real-Time Wind Maps could be made to specify severe impact neighborhoods, refineries, nukes

We can know who had 140 mph and who had 100 mph